REMARKS

Claims 27-29, 32-33, 35-36, 38-39, 41-42, 44, 47, 50-52, 55, 58-60, 63, 65-66, and 68-69 are presently in the application. Claims 1-26, 30-31, 34, 37, 40, 43, 45-46, 48-49, 53-54, 56-57, 61-62, 64, and 67 have been canceled. Amended claim 27 is an amended version of previously presented claim 57. Amended claim 28 is an amended version of previously presented claim 64. Amended claim 29 is an amended version of previously presented claim 67. Claims previously depending from any of claims 57, 64, and 67 have been amended to depend from amended claims 27-29 accordingly. The above amendments are being made to place the application in better condition for examination.

Claim 55 was objected to because the claim lacked proper antecedent basis for "the bearing points." Applicant has accordingly corrected the claim in this regard.

Claims 35-37, 53, 68, and 69 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 35-36, the limitation a "very high glass temperature" was considered to render the claims indefinite. Paragraph [0030] describes that limitation as being 30 degrees K above the continuous use temperature of the throttle valve unit. Applicant has substituted this language in the claims. In claims 68 and 69, the step "possibly partial removal" was considered indefinite. Applicant has deleted "possibly" from the claim.

Reconsideration of the rejection of claims 27-56, and 67 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5482506 to Tsuda et al in view of U.S. Patent No. 5421718 to Karlsson et al is respectfully requested.

Claim 29 (amended version of previously presented claim 67) is directed to a method for manufacturing a ***throttle valve unit having a housing part and a valve flap part*** that is able to move in relation to the housing part, the method comprising the following process steps:

a) injection molding the housing part ***of the throttle valve unit*** out of a first plastic material in a first cavity,

b) transferring the molded housing part obtained according to process step a) to a second cavity spatially separate from the first cavity, and

c) injection molding the movable valve flap part ***of the throttle valve unit*** out of a second plastic material inside the molded housing part in the second cavity, the first and second plastic materials being injected into the first and second cavities, respectively, through injection points positioned in the cavities in such a way that the flow orientation of chain molecules of the plastic materials and their reinforcing and filler materials are used to influence the shrinkage behavior of the housing part and the valve flap part during the cooling phase so that the second plastic material of the valve flap part shrinks away from the housing part in the intended manner in order to provide the desired gaps between the housing part and flap part, and

d) ***inserting bushes into openings of the molded housing part or applying a third material into the gap.***

Claim 50 is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising the following process steps:

a) injection molding the housing part ***of the throttle valve unit*** out of a first plastic material in a first cavity,

b) transfer of the molded housing part of the housing part obtained according to process step a) to a second cavity spatially separate from the first cavity,

c) injection molding the movable valve flap part out ***of the throttle valve unit*** of a second plastic material inside the molded housing part in the second cavity,

d) demolding the valve flap part obtained according to process step c) in a position of the valve flap part inside the molded housing part that produces an extremely narrow gap geometry or in a sealed position of the valve flap part inside a gas passage of the molded housing part, which position is defined during the injection of the second plastic material for the valve flap part, and

e) ***applying a third material into the gap***.

The reference US 5,482,506 (Tsuda) discloses a method for forming a device with a housing 3 and blade bodies 5 that rotate within the housing on support shafts 15. By means of injection molding, the housing is formed of a first material placing the molded housing between two different dyes and injecting a second material to form the blade bodies. Tsuda apparently does not teach that the housing with the plates constitutes a throttle valve. Tsuda particularly does not teach the application of a third material. Still further, Tsuda does not teach the application of inserting bushes into openings in the housing body. Consequently, Tsuda does not teach the use of a fourth material to apply to the gap.

The reference US 5,421,718, Karlsson et al., is related to a method for producing a volumetric flow central valve. According to Karlsson et al., a method for forming a throttle valve from a moving part in a housing by molding the two components sequentially in a mold is disclosed by molding the housing first and the valve second.

Karlsson et al. does not disclose inserting bushes, nor it is disclosed to apply a third or fourth material into the gap geometries of the two component injection mold throttle valve unit

where the gap geometries lie outside the tightness specification before the introduction of the third material and then - after the partial removal of the third material - lie within the tightness specification.

Even if one were to look to the teaching of Karlsson et al, the combination of Karlsson et al and Tsuda would not arrive at the claimed invention of claim 29 (prev. 67) simply because neither reference discloses nor suggests inserting bushes into openings of the molded housing part or applying a third material into the gap, in combination with the process steps a-c, or of claim 50 because neither reference discloses nor suggests applying a third material into the gap, in combination with the process steps a-d. Accordingly, the rejection is rendered moot.

Reconsideration of the rejection of claims 57-62 and 68 under 35 U.SC. 103(a) as being unpatentable over Tsuda et al in view of Karlsson et al and U.S. Patent No. 5,693,271 to Johnson et al is respectfully requested.

Claim 27 (amended version of previously presented claim 57) is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising following process steps:

a) injection molding the housing part ***of the throttle valve unit*** out of a first plastic material in a first cavity,

b) transferring the molded housing part obtained according to process step a) to a second cavity spatially separate from the first cavity,

c) injection molding the movable valve flap part ***of the throttle valve unit*** out of a second plastic material inside the molded housing part in the second cavity, and

d) ***inserting bushes into openings of the molded housing part and/or applying an additional material after process step a) onto molding surfaces of the***

second plastic material of the valve flap part to be subsequently injection molded in the molded housing part.

Claim 68 is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising process steps:

a-c) as above, and

d) ***introducing a third material into the gap geometries of the two-component injection molded throttle valve unit where the gap geometries lie outside the tightness specification before the introduction of the third material and then - after the partial removal of the third material - lie within the tightness specification.***

Tsuda is relied upon for a method for forming a device, with a housing 3 and blade bodies 5 that rotate within the housing on support shafts 15, by injection molding the housing from a first material, placing the molded housing between two different dies, and injecting a second material to form the blade bodies.

Tsuda does not teach that the housing with blades constitutes a throttle valve, or the application of a third material.

Karlsson is relied upon for a method for forming a throttle valve from a moving part in a housing by molding the components sequentially in a mold by molding the housing first and the valve second. Karlsson does not disclose inserting bushes, nor it is disclosed to apply a third or fourth material into the gap geometries of the two component injection mold throttle valve unit where the gap geometries lie outside the tightness specification before the introduction of the third material and then - after the partial removal of the third material - lie within the tightness specification. The reference US 5,693,271, Johnson et al is related to a

rotationally molded and insulated plastic molded door with integral hinge. Johnson et al is relied upon for allegedly disclosing a method for over-molding two plastic materials with a third material that is related to the process of molding a high impact resistant door having a front door surface and a rear door surface forming an integral hollow cavity in the interior of said door. Further, an upper hinge cavity is defined in an upper corner and a lower hinge cavity is defined in a lower corner of said door. Into said hinge cavities elongated hinge members have been placed, said elongated hinge members being coated with a release agent to prevent integral plastic bonding to said hinge member interior and still further a plastic is placed in said mold and rotationally molded to the interior of said mold to form a hollow plastic door having said front surface and said rear surface a top door edge, a bottom door edge, said hinge door edge and said opening door edge with said upper and lower hinge members cavities defined in said door. A foam filler is injected into the interior of said door integrally bonded within said integral hollow cavity of said door.

Apparently, the Examiner equals the foam filler interior with a third material such as in the invention. The third material in the invention is applied into the gap in the case the tightness specifications are not met.

Applicant finds it likely that the examiner was using hindsight in the application of the Johnson reference as the reference does not address making throttle valve parts, the method of making the plastic molded door with integral hinge is unrelated to the method for making the molded component parts in the invention, the application of the foam filler is for entirely different reasons and is not applied between the two molded components, as is the case in the invention. Without the Johnson reference the Primary references alone would not

render the invention obvious, as there is no teaching in either Karlsson et al or Tsuda of inserting bushes into openings of the molded housing part and/or applying an additional material after process step a) onto molding surfaces of the second plastic material of the valve flap part, or introducing a third material into the gap geometries of the two-component injection molded throttle valve unit where the gap geometries lie outside the tightness specification before the introduction of the third material and then - after the partial removal of the third material - lie within the tightness specification. Only after the hindsight combination of Johnson with the primary references on the part of the examiner would the possibility of such a disclosure even exist. Applicant finds the examiner's rejection to be improper due to the above facts. Accordingly withdrawal of the rejection is respectfully requested.

Reconsideration of the rejection of claims 63-66 under 35 USC. 103(a) as being unpatentable over Tsuda et al in view of Karlsson et al and Pub. No. 2003/0024576 to Schaefer et al is respectfully requested.

Claim 63 is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising including the following process steps:

a) injection molding the housing part **of the throttle valve unit** out of a first plastic material in a first cavity,

b) transferring of the molded housing part obtained according to process step a) to a second cavity spatially separate from the first cavity,

c) injection molding the movable valve flap part **of the throttle valve unit** out of a second plastic material inside the molded housing part in the second cavity,

and

d) ***inserting bushes into openings of the molded housing part so that the bushes are rotationally fixed in relation to the molded housing part, before or during the transfer of the molded housing part to the second cavity.***

Claim 28 (Amended version of previously presented claim 64) is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising the following process steps:

a-c) above and
the valve flap part having shaft parts, and

d) ***inserting bushes into openings of the molded housing part with rotational fixing in relation to the shaft parts of the valve flap part before or during the transfer of the molded housing part to the second cavity and/or applying an additional material into a gap between the molded housing part and the valve flap part.***

Tsuda is relied upon for a method for forming a device, with a housing 3 and blade bodies 5 that rotate within the housing on support shafts 15, by injection molding the housing from a first material, placing the molded housing between two different dies, and injecting a second material to form the blade bodies.

Tsuda does not teach that the housing with blades constitutes a throttle valve, or the application of inserting bushes into openings in the housing body.

Karlsson is relied upon for a method for forming a throttle valve from a moving part in a housing by molding the components sequentially in a mold by molding the housing first and the valve second.

Schaefer is relied upon for a method for forming a throttle valve through two component injection molding in which bearing pins are embedded in the housing body. Contrary to the examiner's interpretation, the process of Schaefer is not as he stated it.

According to Schaefer, see claim 1 page 4, a throttle valve unit 1 is formed in one piece in a single operation using an injection molding process in which a frame structure is produced which valve unit encompasses a valve surface on both sides of valve shaft 2 that has bearing elements 5 and 7, respectively.

Applicant wishes to emphasize that Schaefer has no disclosure related to steps a), b), c) of all independent claims concerning:

a) according to which injection molding the housing part of a first plastic material in a first cavity is performed,

b) transferring the molded housing part obtained according to a second cavity spatially separate from the first cavity and

c) injection molding the movable valve flap part out of a second plastic material inside the molding housing part in the second cavity.

Thus, Schaefer et al does not disclose a valve housing which is made in a single step, it lacks two different plastic materials having different properties and particularly lacks the said first and second cavity and consequently the transferring step b).

For the above reasons Applicant once again finds it likely that only with the use of hindsight with knowledge of the invention, did the examiner seek to combine Schaefer et al with the primary references to Tsuda et al and Karlsson et al. Without the Schaefer reference the primary references alone would not render the invention obvious, as there is no teaching in neither Karlsson et al nor Tsuda of inserting bushes into openings of the molded housing

part so that the bushes are rotationally fixed in relation to the molded housing part, before or during the transfer of the molded housing part to the second cavity, or inserting bushes into openings of the molded housing part with rotational fixing in relation to the shaft parts of the valve flap part before or during the transfer of the molded housing part to the second cavity and/or applying an additional material into a gap between the molded housing part and the valve flap part. Only after the hindsight combination of Johnson with the primary references on the part of the examiner would the possibility of such a disclosure even exist. Applicant finds the examiner's rejection to be improper due to the above facts. Accordingly withdrawal of the rejection is respectfully requested.

Claim 69 has been rejected under 35 U.SC. 103(a) as being unpatentable over Tsuda et al in view of Karlsson et al, Johnson et al, and Schaefer et al.

Claim 69 is directed to a method for manufacturing a throttle valve unit having a housing part and a valve flap part that is able to move in relation to the housing part, the method comprising following process steps:

a) injection molding the housing part ***of the throttle valve unit*** out of a first plastic material in a first cavity,

b) transferring the molded housing part obtained according to process step a) to a second cavity spatially separate from the first cavity,

c) injection molding the movable valve flap part ***of the throttle valve unit*** out of a second plastic material inside the mold housing part in the second cavity,

d) ***providing bushes between the molded housing part and the flap part, and***

e) ***introducing a fourth material into the gap geometries of the two-component injection throttle valve unit with bushes where the gap geometries lie outside the tightness specification before the introduction of the fourth material and***

then - after the partial removal of the fourth material - lie within the tightness specification.

Tsuda et al in view of Karlsson et al and Johnson et al is relied upon for the limitations of claim 69, except for the application of a fourth material.

Johnson is relied upon for a method for over-molding two plastic materials with another material. Schaefer is relied upon for a method for forming a throttle valve through two component injection molding in which bearing pins are embedded in the housing body.

For the same reasons as discussed above with regarding Johnson et al and Schaefer et al, Applicant finds that the combination of Johnson et al and Schaefer et al with the primary references to be made in hindsight of Applicants' invention, and therefore to be improper under 35 U.S.C 103. Accordingly withdrawal of the rejection is respectfully requested.

The above amendments are being made to place the application in better condition for examination and allowance.

Entry of the amendment is respectfully solicited.

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